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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/967,232	09/28/2001	William J. Jones	47171-00305	1787

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EXAMINER
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SHAPIRO, JEFFERY A

ART UNIT	PAPER NUMBER
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3653

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/29/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

09/967,232

Applicant(s)

JONES ET AL.

Examiner

Jeffrey A. Shapiro

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 11-89 is/are pending in the application.
- 4a) Of the above claim(s) See Continuation Sheet is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 11, 12, 15, 17-20, 22-29, 33, 35, 36, 38-40, 49-56, 59, 65, 68-70, 79, 80, 87 and 89 is/are rejected.
- 7) ☒ Claim(s) 87 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

Continuation of Disposition of Claims: Claims withdrawn from consideration are 13,14,16,21,30-32,34,37,41-48,57,58,60-64,66,67,71-78,81-86 and 88.

## DETAILED ACTION

### *Claim Objections*

1. Claim 87 is objected to because of the following informalities: in line 10, the phrase "the at least a first scanner" should be "the at least one scanner". Appropriate correction is required.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-6, 11, 12, 15, 17-20, 22-29, 33, 35, 36, 38-40, 49-56, 59, 65, 68-70, 79, 80, 87 and 89 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hatanaka et al (Japanese Patent Publication No. 61-14557) in view of Fujii et al (UK Patent Application, GB 2088832A), and further in view of Winkler (US 5,394,992) and McNerny (US 5,761,089). Hatanaka discloses Applicants' claimed system as follows.

As described in Claims 1-6, 11, 12, 15, 17-20, 22-29, 33, 35, 36, 38-40, 49-56, 59, 65, 68-70, 79, 80, 87 and 89;

- a. receiving a stack of bills in an input receptacle (2) of the evaluation device (1) (see also p.4, lines 9-14);
- b. transporting the bills, one at a time, from the input receptacle to one of two or more output receptacles of the currency evaluation device (see p.4, lines 9-14 and p.7, lines 19-22);

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- c. counting and determining the denomination of the bills utilizing a detector (111) positioned along a transport path between the input receptacle and the output receptacles (see p. 7, lines 8-16);
- d. determining whether the bills meet or fail to meet a non-piece count related criterion; (Note again, p.7, lines 9-12, which states that the detection unit (111) **detects patterns optically**. Note also p. 8, lines 1-10, which states that a "mistaken note of paper currency" is flagged as an error when a no-denomination signal is output. No denomination is construed as a non-piece count criterion, since it is not related to the counting of the bills, but with how the bills look based on pattern recognized on the surface of the bill. Note also that the specification of Hatanaka describes what is construed as a piece count criterion, being detected by counting roller (43). See p.6, lines 17-22. Note also Fujii et al (UK Patent Application, GB 2088832A), which mentions several non-piece count criterion, such as abnormal bank note length, abnormal photopattern, on p.1, lines 105-121 of the specification.)
- e. halting the transporting when a bill meets or fails to meet the criterion, a bill meeting or failing to meet the criterion being termed a flagged bill (see Hatanaka, p.7, lines 19-26, p.8, lines 1-10, p.11, lines 13-16, p.13, lines 22-26 and p. 14, lines 1 and 2, noting that if the bill does not have a surface pattern that matches the stored pattern, the

transporting is halted, thus keeping the bill in the conveying path at a particular location);

f. wherein the halting is performed such that the flagged bill is positioned as the last bill in one of the output receptacles; (See, for example, p.11, lines 13-16, noting that if a mismatch between the stored pattern and the actual detected pattern on the bill, that the conveyor unit is halted, with the erroneous/flagged note being ejected through "a discharge slot", as described on p. 7, lines 23-25, construed as meaning another separate discharge than discharge slot (22). The erroneous bill is discharged as the last bill transported before the device is shut down.

Note also that it would have been obvious for one ordinarily skilled in the art to direct such a bill to any discharge, for example, the discharge where counted bills had been collected, thus making the erroneous bill the last bill on the pile of bills, the counted bills being below the erroneous bill.)

g. wherein bills whose denomination are determined are delivered to a first set of one or more of the output receptacles and wherein bills whose denomination are not determined are directed to a second set of one or more of the output receptacles, a bill whose denomination is not determined being termed a no call bill, the output receptacles of the second set being different from the output receptacles of the first set (again, note discussion in "f", above);

- h. determining whether a bill is a stranger bill (again, see above discussion in "a-f");
- i. determining whether a bill is a suspect bill; (See p.11, lines 8-16, noting that detection of a "wrong denomination" bill appears to meet Applicants' definition of a suspect bill in Applicants' specification at p.30, lines 18-24, also noting that it would be obvious to use any of the extracted features of the actual pattern of the bill in the system of Hatanaka to determine the genuineness of the bill. Note also that a set can be construed as consisting of one output receptacle.)
- j. wherein bills whose denomination are determined are delivered to a first set of one or more of the output receptacles, the output receptacles of the first set being different from the output receptacles of the second set (again, see prior discussions in "a-f" above);
- k. determining whether a bill is a no call bill (again, see prior discussions in "a-f", above);  
  
(Note that it would have been obvious to provide a transportation rate of 800 bills per minute. See, for example, Winkler (US 5,394,992), col. 5, lines 53-54, having a speed of 2000 documents per minute and McInerny (US 5,761,089), col. 17, lines 50-53, having a speed of either 1200 or 600 documents per minute. Based on this evidence, it would have been obvious to one of ordinary skill in the art to create a bill counting machine with a document speed of 800 bills per minute, as the particular situation

would require, or simply to make the machine count bills at a faster, more economical rate.)

l. a third output receptacle; (Note that it would have been obvious to provide as many outputs as one would require to handle the volume of bills expected to be counted, as one ordinarily skilled in the art would consider that overflow amounts of counted bills might require handling by the machine. Note also, the above discussion in "f" above, for example, where a separate discharge slot is mentioned for directing an erroneous bill into another, second discharge slot.)

m. generating a characteristic information output signal in response to detected characteristic information via the detector (see above discussion, in "a-f);

n. producing tracking signals in response to the physical movement of bills; (See p.7, lines 16-19 and p.8, lines 1-15, noting that detection unit (122) detects bills located in loading unit (2) and detection unit (129) detects bills conveyed over the paper currency collection unit (23). These detectors send signals to the main control unit (121), which in effect, tell the control unit where the bills are.)

o. determining the face orientation of the bills; (Note that it would have been obvious to one ordinarily skilled in the art to use the orientation of the bills as a criterion, as the actual detected surface pattern of the bill is stored in the system controller and compared to the reference pattern.



If the pattern is not correct in any way, it is obvious for one ordinarily skilled in pattern recognition to determine that that particular feature is not a match, therefore the bill is classed as erroneous or a "no-call" bill. A bill fed into the machine with the wrong length would be expected to have a different pattern detected than one fed into the machine with the lengths consistent with the reference pattern. See also the Fujii patent '832, cited above.)

- p. the second set of output receptacles includes a receptacle designated as a no call output receptacle (again, note that the "another discharge slot" may be construed as an output that receives no call bills);
- q. the halting occurs after a no call bill has been delivered to the no call output receptacle (again, see discussion in "a-f" above);
- r. the halting occurs with the no call bill being positioned at an identifiable location in the no call output receptacle (again, see "a-f" and "n" above, noting that the contents of the output receptacle in Hatanaka is sensed or tracked);
- s. the halting occurs with the no call bill being the last bill transported to the no call output receptacle, wherein the criteria is the denomination of a bill and wherein a bill failing to meet the criterion of having its denomination determined is a flagged bill (see "a-f" discussion above);
- t. the halting occurs before a no call bill has been delivered to the no call output receptacle (see "a-f", discussed above);

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- u. the halting occurs with the no call bill being located at an identifiable location within the transport path (note, as described previously, that the erroneous/no call bill, when halted, is located at an identifiable location in the conveying path, after which, the conveyor control directs the located erroneous bill to the discharge slot);
- v. the halting occurs after the no call bill has been delivered to an output receptacle of the second set; (Note that it would have been obvious to halt the machine completely after the erroneous/no call bill is output to the second discharge slot. Note also that the cited passages of Hatanaka describe the machine halting after the no call bill is finally transported.)
- w. the halting occurs with the no call bill being positioned at an identifiable location in an output receptacle of the second set (again, note that the system of Hatanaka detects the contents of the discharge slots and associated receptacles);
- x. the halting does not occur after a no call bill or a stranger bill has been delivered to an output receptacle of the second set (note that it would have been obvious to continue the operation of the machine of Hatanaka, to count bills after the erroneous/no call bill is discharged, the other bills being placed either in the original discharge slot and receptacle or in a third discharge slot or receptacle);

- y. the counting and determining of the currency bills is performed independent of the size of the bills (see "a-f" above, noting that it would have been obvious to use portions of the bill pattern besides size to count and determine the currency genuineness of the bills, since size is only one of many features which can be obtained from the optical scan of the bill surface);
- z. an optical scanning head/detector (111, 112) which scans a preselected segment of a bill, generates a scanned pattern from each of the bills, determines the denomination of the bill by comparing a scanned pattern with a master pattern (see Hatanaka, p.6, lines 8-16, p.8, lines 17-19, p.9, lines 12-14, p.11, lines 8-16, 21-23, p.12, lines 13-18);

Hatanaka, Fujii, Winkler and McInerny are all considered to be analogous art because they all concern paper currency counting and sorting.

At the time of the invention, it would have been obvious for one ordinarily skilled in the art to have used the device of Hatanaka to identify a non-piece count criterion, such as abnormal photopattern, as described Fujii. See p.6, lines 17-22 of Hatanaka and p.1, lines 105-121 of the specification of Fujii.

The suggestion/motivation would have been to accept only correct bank notes and reject incorrect banknotes. See Fujii, specification, p.1, lines 6-8.

Regarding Winkler and McInerny, one ordinarily skilled in the art would recognize that based on the teachings of these prior art examples, cited above, it would have been

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obvious to cause a device such as that of Hatanaka to operate at a wide variety of bill output speeds, based upon the output requirements desired.

Therefore, it would have been obvious to combine Hatanaka, Fujii, Winkler and McInerny in order to obtain the invention as described in Claims 1-6, 11, 12, 15, 17-20, 22-29, 33, 35, 36, 38-40, 49-56, 59, 65, 68-70, 79, 80, 87 and 89.

Regarding the ability of Hatanaka's apparatus to handle "substitute funds", "casino script", "paper tokens", "gift certificates", "retailer coupons" and "bar coded tickets" in addition to currency bills, as exemplified in Claims 1-6, note that these are all considered functional equivalents of each other and that it would have been obvious to one ordinarily skilled in the art to have set Hatanaka's device to discriminate these various forms of currency and segregate them accordingly. Further, note that per MPEP 2115, "the material or article worked upon does not limit apparatus claims".

With regard to Claims such as exemplified by Claim 13, which refers to "at least one currency detector" and "a first media detector" or Claim 79 which refers to "at least one currency detector" and "a barcode reader", note that a barcode reader is an optical detector/scanner.

Hatanaka discloses pattern detector (111) which is an optical scanner with lighting device/photoelectric unit (111b).

McInerny discloses use of several detectors such as LED (81)/optical sensor (80) which senses optical characteristics of bills and bill substitutes, optical sensors (82, 84) which are used to detect opacity in documents, as well as magnetic sensor (86) that detects magnetic characteristics of bills and bill substitutes. McInerny's optical sensors

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(82, 84) can be construed as "at least one currency detector" while McInerny's optical sensor (80) can be construed as "a bar code reader" since it has the structure of an optical scanner, which is the same structure a bar code reader has. McInerny's sensor (80) can also be construed as a "second scanner" as recited in Claim 87, with optical sensors (82 and 84) being the first scanner.

It would have been obvious to have included the sensors taught by McInerny along the transport path of Hatanaka's bill sorting device, for the purpose of detecting various characteristics of bills and bill substitutes including bar codes. See McInerny, col. 7, line 45-col. 8, line 58.

### ***Double Patenting***

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b)..

5. Claims 1-6, 11, 12, 15, 17-20, 22-29, 33, 35, 36, 38-40, 49-56, 59, 65, 68-70, 79, 80, 87 and 89 rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over Claims 1-73 of U.S. Patent No. 6,880,692; Claims 1-78 of U.S. Patent No. 6,913,130; Claims 1-91 of U.S. Patent No. 6,959,800; Claims 1-

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31 of U.S. Patent No. 6,955,253 or Claims 1-26 of U.S. Patent No. 6,868,954. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims are directed to the following.

A system and apparatus for discriminating and counting currency bills including receiving a stack of bills, transporting the bills, counting and determining the denominations of the bills utilizing a detector, determining whether the bills fail or meet certain criteria, halting the transporting when a failing bill is identified, and placing the failed bill as the last bill in one of the output receptacles. Although not all of the claims may have been recited an "optical scanning head", it is considered to be obvious to have included such a device because the apparatus claimed is designed to operate with such a pattern detection unit, and would not work without such a device.

6. Claims 1-6, 11, 12, 15, 17-20, 22-29, 33, 35, 36, 38-40, 49-56, 59, 65, 68-70, 79, 80, 87 and 89 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 7-29, 78-89 and 146-149 of copending Application No. 09/684,103. Although the conflicting claims are not identical, they are not patentably distinct from each other because they are directed toward the following.

a method and apparatus for discriminating and counting currency bills including receiving a stack of bills, transporting the bills, counting and determining the denominations of the bills utilizing a detector, determining whether the bills fail or meet certain criteria, halting the transporting when a failing bill is identified, and placing the failed bill as the last bill in one of the output receptacles. Although not all of the claims

may have recited an "optical scanning head", it is considered to be obvious because the apparatus claimed is designed to operate with such a pattern detection unit, and would not work without such a device.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

***Terminal Disclaimer***

7. The terminal disclaimer filed on 12/26/06 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of 10/5/2000 has been reviewed and is NOT accepted.

a. The person who signed the terminal disclaimer is not recognized as an officer of the assignee, and he/she has not been established as being authorized to act on behalf of the assignee. See MPEP § 324.

8. An attorney or agent, not of record, is not authorized to sign a terminal disclaimer in the capacity as an attorney or agent acting in a representative capacity as provided by 37 CFR 1.34 (a). See 37 CFR 1.321(b) and/or (c).

9. It would be acceptable for a person, other than a recognized officer, to sign a terminal disclaimer, provided the record for the application includes a statement that the person is empowered to sign terminal disclaimers and/or act on behalf of the organization.

Accordingly, a new terminal disclaimer which includes the above empowerment statement will be considered to be signed by an appropriate official of the assignee. A separately filed paper referencing the previously filed terminal disclaimer and containing a proper empowerment statement would also be acceptable.

### ***Response to Arguments***

10. Applicant's arguments filed 12/26/06 have been fully considered but they are not persuasive. Applicant asserts that a bar code reader is different than an optical scanner for bills. However, the physical structure required by the apparatus claim structure recited can only be differentiated based on structure, not functional language. An optical scanner has the same basic features as bar code reader-an optical light source that illuminates the target, the resulting image being sampled by the optical light source. Regardless of whether the target is a bill or bar code or coupon or voucher or other such currency substitute, the optical scanner works the same. Regarding the first and second scanners, McInerny teaches using several detectors that detect various characteristics of bills and the functional equivalent thereof. Further regarding the various bills and bill substitutes, an apparatus claim may not be differentiated based on the item worked on. See MPEP 2115. Also, a system claim is considered to be an apparatus claim. Therefore, the limitations such as bills, substitute funds, paper tokens, coded tickets or bar codes do not further limit Applicant's apparatus and system claims. Even if these limitations did limit the claims further, these are all considered functionally equivalent to each other, and are capable of being detected by McInerny's detectors discussed above.

### ***Conclusion***

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Sandru, (US 2002/0164021 A1) discloses a validation system which includes an optical scanner (17) and a MICR reader (16) which is considered to



be equivalent to a barcode reader; Kayani et al (US 5,917,930) discloses a bill validation device with optical reader (110) and bar code reader (104); Goldman (US 4,837,840), with optical sensor (54) and barcode reader (56); Moore (US 5,838,814), discloses scanning in visible bill characteristics as and then invisible barcode or other characteristics of the bill; Ehrhart et al (US 6,304,660 B1) is cited as disclosing a validation device with both a optical characteristic recognition (OCR) device as well as a bar code reader at col. 9, line 38-col. 14, line 18 and Gavrilos (US 5,912,979) discloses both a bar code reader (125) and optical character reader (142) in figure 1.

**12. THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey A. Shapiro whose telephone number is

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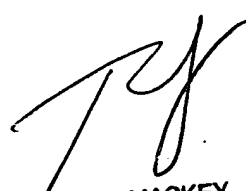
(571)272-6943. The examiner can normally be reached on Monday-Friday, 9:00 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick H. Mackey can be reached on (571)272-6916. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JAS

March 27, 2007

  
PATRICK MACKEY  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3600